Listing of Claims:

1. (Previously presented): A process for surface treatment of at least one electrically conducting substrate or a substrate that has been coated so as to be electrically conducting, the process comprising the steps of:

placing a gas in a region of an electric discharge;

restricting the discharge region on at least two opposite sides by surfaces to be treated, wherein the surfaces to be treated are supplied by one of two flat, parallel substrates and at least one continuously moving band-shaped substrate and wherein the surfaces to be treated form a hollow cathode used to enable a hollow-cathode glow discharge; and

treating the surfaces to be treated by a hollow-cathode glow discharge, said discharge activated only by at least one of a DC voltage, a pulsed DC voltage, and an AC voltage having a frequency of up to 50 MHz.

2. (Canceled).

3. (Canceled).

4. (Canceled).

5. (Previously presented): The process according to claim 1 wherein the at least one substrate is the continuously moving band-shaped substrate, the process further comprising the step of:

turning the at least one substrate at least once to change the direction of movement;

wherein the discharge region is restricted on at least one side by an area of the substrate before the turn in the direction of movement, and on at least one other side by an area of the substrate after the turn in the direction of movement.

6. (Previously presented): The process according to claim 1 wherein the restricting step further comprises the step of restricting the discharge region on two sides by substrate surfaces at a distance of one mm to 50 cm apart.

7. (Previously presented): The process according to claim 1 wherein the electric discharge occurs at a pressure between 0.01 mbar and 100 mbar.

8. (Previously presented): The process according to claim 1 wherein the at least one substrate is at ground potential.

9. (Previously presented): The process according to claim 1 wherein a magnitude of a voltage between the at least one substrate and a plasma formed by said electric discharge is between one and 3000 volts.

10. (Canceled).

11. (Canceled).

12. (Previously presented): The process according to claim 1 wherein the placing step further comprises the step of feeding the gas into one of the discharge region and an area immediately outside the discharge region.

13. (Previously presented): The process according to claim 1 further comprising the step of removing the gas from one of the discharge region and an area immediately outside the discharge region.

14. (Previously presented): A device for surface treatment of at least one electrically conducting substrate or a substrate that has been coated so as to be electrically conducting, the device comprising:

a discharge region enclosed on at least two sides by substrate surfaces of at least one substrate;

means for supplying electrical energy to the discharge region;

a vacuum chamber to enclose the discharge region;

means for supplying gas to the vacuum chamber;

means for removing gas from the vacuum chamber; and

an anode proximate to the at least one substrate and the anode operable to receive an activating voltage;

wherein the substrate surfaces form a hollow cathode used to enable a hollow-cathode glow discharge, and wherein the at least one substrate is surface treated by the hollow-cathode glow discharge, said discharge activated by the activating voltage, the activating voltage being only at least one of a DC voltage, a pulsed DC voltage, and an AC voltage having a frequency of up to 50 MHz and wherein the substrate surfaces are supplied by one of two flat parallel substrates and at least one continuously moving band-shaped substrate.

15. (Previously presented): The device according to claim 14 further comprising means for cooling the at least one substrate.

16. (Previously presented): The device according to claim 14 further comprising a gas supply arranged in one of the discharge region and immediately outside the discharge region.

17. (Previously presented): The device according to claim 14 further comprising means for gas removal arranged in one of the discharge region and immediately outside the discharge region.

18. (Previously presented): The device according to claim 14 wherein the at least one substrate is a continuously running band adapted to be unwound from a first spool and adapted to be wound onto a second spool.

19. (Previously presented): The device according to claim 18 wherein the first spool and the second spool are arranged outside the vacuum chamber, and the band is adapted to be introduced into and removed from the vacuum chamber by vacuum locks.

20. (Previously presented): The device according to claim 18 wherein the first spool and the second spool are arranged inside the vacuum chamber.

21. (Previously presented): The device according to claim 14 further comprising deflection elements arranged in the vacuum chamber, in the region of the sides of the discharge region not restricted by the substrate surfaces, wherein the deflection elements are electrically isolated from the at least one substrate.

22. (Previously presented): The device according to claim 14 further comprising deflection elements arranged in the vacuum chamber, the deflection elements arranged at least one of in a region of a device component in which parasitic discharges could be formed due to potentials of the device component and around the at least one substrate and the discharge region, and wherein the deflection elements are electrically isolated from the device component and the at least one substrate.

23. (Previously presented): A process for surface treatment of a substrate, the substrate being one of an electrically conducting substrate and a substrate coated so as to be electrically conducting, the process comprising the steps of:

placing a gas in a region of an electric discharge;

restricting the discharge region on at least two sides by substrate surfaces to be treated, wherein the substrate surfaces form a hollow cathode; and

treating the substrate surfaces by a hollow-cathode glow discharge, said discharge activated by at least one of a DC voltage, a pulsed DC voltage, an AC voltage and microwaves; and wherein

elements of the surface treatment process are integrated outside of the discharge region, the elements including means for placing the gas in the region and means for removing the gas from the region.

24. (Previously presented): A device for surface treatment of a substrate, the substrate being one of an electrically conducting substrate and a substrate coated so as to be electrically conducting, the device comprising:

at least one substrate defining a discharge region enclosed on at least two sides by substrate surfaces to be treated;

means for supplying electrical energy to the discharge region;

a vacuum chamber to enclose the discharge region;

means for supplying gas to the vacuum chamber;

means for removing gas from the vacuum chamber; and

an anode proximate to the at least one substrate;

wherein the substrate surfaces form a hollow cathode, and wherein the substrate surfaces are treated by a hollow-cathode glow discharge activated by at least one of a DC voltage, a pulsed DC voltage, an AC voltage and microwaves; and

wherein elements of said device are integrated outside of the discharge region, the elements including the means for supplying gas, the means for removing gas and the anode.

25. (Previously presented): The process according to claim 1 wherein the restricting step further comprises the step of restricting the discharge region on two sides by substrate surfaces at a distance of one to ten centimeters apart.

26. (Previously presented): The process according to claim 1 wherein the hollow-cathode glow discharge is activated by one of a DC voltage, a pulsed DC voltage with a pulse frequency between ten kHz and 100 kHz, an AC voltage having a frequency between 50 Hz and 60 Hz, an AC voltage having a frequency between ten kHz and 100 kHz and an AC voltage having a frequency between one MHz and 50 MHz.

27. (Previously presented): The process according to claim 1 wherein the at least one substrate comprises at least one band-shaped substrate and wherein the restricting step further comprises restricting the discharge region on two opposed, parallel sides by the at least one band-shaped substrate.

28. (Previously presented): The device according to claim 14 wherein a distance between the substrate surfaces is between one and ten centimeters.

29. (Previously presented): The device according to claim 14 wherein the activating voltage is one of a DC voltage, a pulsed DC voltage with a pulse frequency between ten kHz and 100 kHz, an AC voltage having a frequency between 50 Hz and 60 Hz, an AC voltage having a frequency between ten kHz and 100 kHz and an AC voltage having a frequency between one MHz and 50 MHz.

30. (Previously presented): The device according to claim 14 wherein the at least one substrate is at least one band-shaped substrate and wherein the discharge region is enclosed by two opposed, parallel sides by the at least one band-shaped substrate.

31. (Previously presented): The device according to claim 30 further comprising at least one roller located outside the discharge region and supporting the at least one band-shaped substrate.

32. (Previously presented): The process according to claim 23 further comprising the step of:

providing the substrate surfaces using at least one band-shaped substrate; and wherein the restricting step further comprises restricting the discharge region on two opposed, parallel sides by the at least one band-shaped substrate.

33. (Previously presented): The process according to claim 32 wherein the elements further comprise at least one roller located outside the discharge region and supporting the at least one band-shaped substrate.

34. (Previously presented): The device according to claim 24 wherein the activating voltage is one of a DC voltage, a pulsed DC voltage with a pulse frequency between ten kHz and 100 kHz, an AC voltage having a frequency between 50 Hz and 60 Hz, an AC voltage having a frequency between ten kHz and 100 kHz and an AC voltage having a frequency between one MHz and 50 MHz.

35. (Previously presented): The device according to claim 24 wherein the at least one substrate is at least one band-shaped substrate and wherein the discharge region is enclosed by two opposed, parallel sides by the at least one band-shaped substrate.

36. (Previously presented): The device according to claim 35 further comprising at least one roller located outside the discharge region and supporting the at least one band-shaped substrate.